

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



A 292.9  
So 3W  
Cop-2

# **WATER SUPPLY OUTLOOK FOR WESTERN UNITED STATES**

Including Columbia River Drainage in Canada



**U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE**

Collaborating with  
CALIFORNIA DEPARTMENT of WATER RESOURCES  
and  
BRITISH COLUMBIA DEPARTMENT of  
LANDS, FORESTS and WATER RESOURCES

AS OF  
**MAY 1, 1975**

## TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

*Cover Photo: Cabins near Sacajawea Snow Course  
in Bridger Mountains, Montana.*

SFS PHOTO 11-P480-15

## PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 111, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

## PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



# **WATER SUPPLY OUTLOOK FOR WESTERN UNITED STATES**

**Including Columbia River Drainage in Canada**

ISSUED

MAY 1, 1975

The Soil Conservation Service coordinates snow surveys conducted by its staff and many cooperators, including the Bureau of Reclamation, Corps of Engineers, Forest Service, National Park Service, NOAA, National Weather Service, Geological Survey, and other Federal Agencies, Departments of State Government, Irrigation Districts, Power Companies, and others.

The Department of Water Resources coordinates snow surveys in California.

The Water Resources Service, Department of Lands, Forests, and Water Resources directs snow surveys in British Columbia.

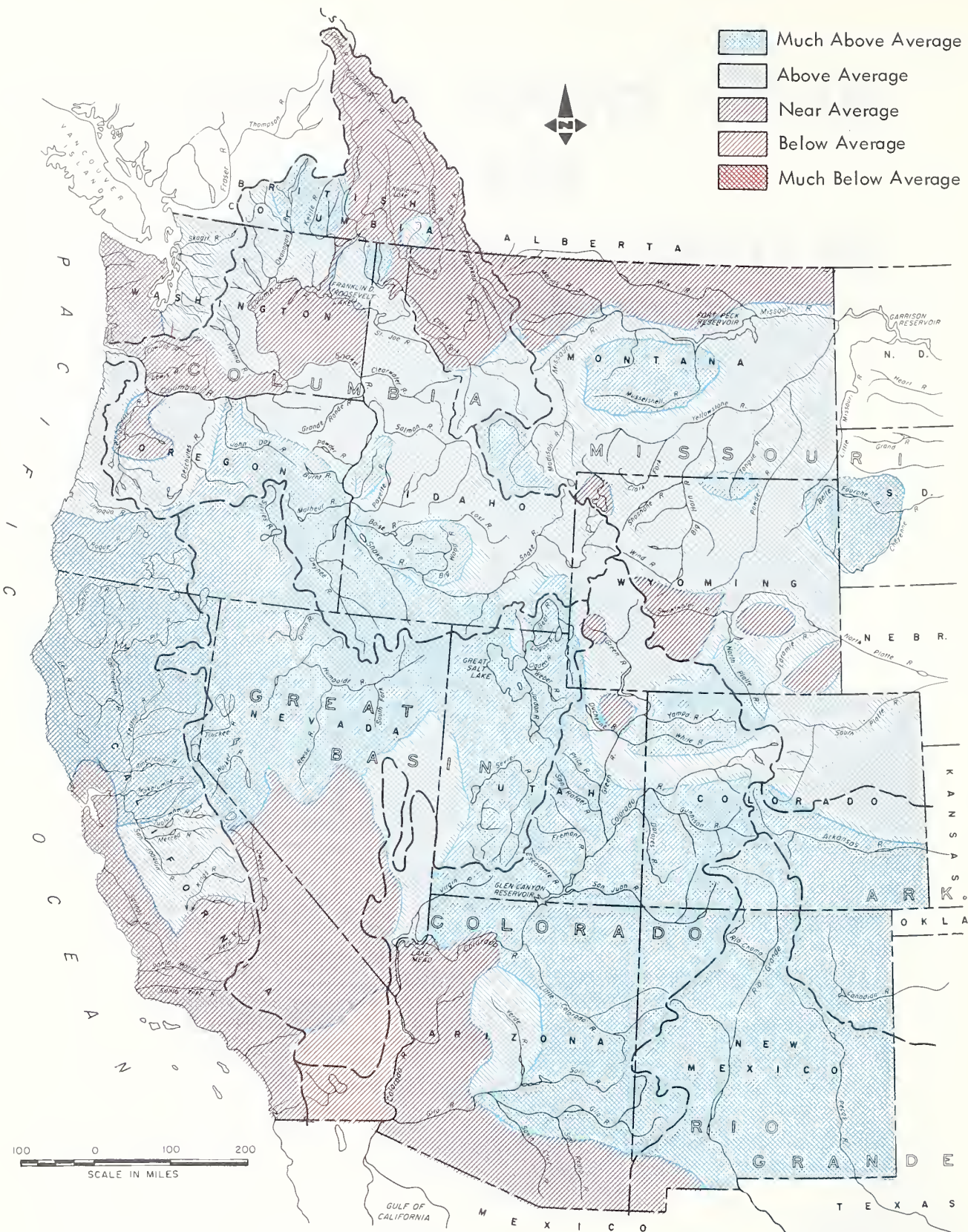
This report was prepared by the Water Supply Forecasting Unit, Engineering Division, Soil Conservation Service, from data supplied by Snow Survey Supervisors of the Soil Conservation Service in the States of Alaska, Arizona, Colorado and New Mexico, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.

Data from California was supplied by the Chief, Water Supply Forecast and Snow Survey Unit, Department of Water Resources.

Data from British Columbia was supplied by the Chief, Hydrology Division, Water Investigations Branch, Department of Lands, Forests and Water Resources.

U. S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
KENNETH E. GRANT, ADMINISTRATOR





1975 SNOWMELT SEASON  
**PROSPECTIVE STREAMFLOW**  
 AS OF MAY 1, 1975

# WATER SUPPLY OUTLOOK

1974 SNOWMELT SEASON  
MAY 1, 1975

THE WATER SUPPLY PROSPECTS FOR THE WESTERN UNITED STATES ARE AVERAGE TO EXCELLENT. COLD WEATHER HAS DELAYED MUCH OF THE SNOWMELT ABOUT ONE MONTH. HEAVY RUNOFF VOLUMES ONE AND ONE-HALF TO THREE TIMES THE AVERAGE ARE EXPECTED IN SOME STATES

Colder than normal temperatures dominated the weather pattern in most areas of the Western United States. This has resulted in a lack of snowmelt and increased prospects for streamflow on many watersheds. As of May 1, many snow courses which normally decrease in water content during April and some which completely melt out had increased in water content or stayed at or near their April 1 values.

The only below average streamflow is expected on several streams in southern California. Elsewhere the runoff will be average to much above average.

Reservoir storage is near or above average in most states. In combination with the delayed runoff due to cold weather, water supply prospects are generally the best in several years.

Streamflow, one and one-half to two times the average snowmelt volume is expected on the Trinity, Cosumnes and Feather rivers in northern California, in the southern half of Oregon on the Owyhee and the inflow to Drews and Gerber reservoirs, and in the north half of Nevada on the Humboldt, Truckee and Surprise Valley drainages. In addition, these much above average volumes are expected throughout most of the state of Utah including those rivers flowing into Great Salt Lake, on the Sevier, Virgin and much of the Colorado River. Rivers and streams in the southern half of Colorado such as the Arkansas, Gunnison, the Rio Grande and Pecos in New Mexico and the Little Colorado, Salt, and Gila rivers in Arizona are expected to produce much above average volumes.

Forecasted volumes as a percent of average for some of the major rivers in the western states are as follows: Columbia at The Dalles, Oregon 110 percent; Missouri near Williston, North Dakota 129 percent; North Platte near Sinclair, Wyoming 136 percent; Arkansas at Salida, Colorado 150 percent; Rio Grande at

Otowi Bridge, New Mexico 185 percent; Colorado River to Lake Powell, Arizona 153 percent; Salt at Intake, Arizona 169 percent; Utah Lake Inflow, Utah 153 percent; Humboldt at Palisade, Nevada 218 percent; Sacramento River Inflow to Shasta Reservoir, California 131 percent.

The California Department of Water Resources reports that water supply conditions continued to improve during April. Precipitation in the mountains was above average and, with below normal temperatures prevailing, the beginning of the snowmelt season has been delayed a month. Forecasts of spring and summer runoff are near or above average for all streams in the State except the Kern River in the southern Sierra.

Streamflow prospects in Alaska now vary from 75 percent on the Little Chena near Fairbanks up to 150 percent on the South Fork of Campbell Creek near Anchorage. The Yukon at Eagle is forecast to flow 132 percent.

## MISSOURI BASIN

Large increase in the snowpack in Montana occurred during April with very little melt, swelling the low elevation snowpack to record proportions in many areas. The snow cover in the headwaters of the Marias, Sun and Teton watersheds is generally near average while most southwestern Montana drainages have a heavy snowpack. The remaining portions of the Missouri River drainage generally have an above average snowpack except for the very heavy accumulations in small mountain ranges such as Highwoods, Bear Paws, Little Rockies and the Snowy mountains.

Wyoming also has a heavy snow accumulation at the lower elevations. The snow cover is generally 20 to 30 percent above normal on the Upper Yellowstone, Shoshone, Wind and Big Horn



## SUMMARY OF SNOW WATER EQUIVALENT MEASUREMENTS

MAY 1, 1975

MAJOR BASIN AND SUB -- WATERSHED	WATER EQUIVALENT IN PERCENT OF:		MAJOR BASIN AND SUB -- WATERSHED	WATER EQUIVALENT IN PERCENT OF:	
	LAST YEAR	AVERAGE		LAST YEAR	AVERAGE
MISSOURI BASIN			SNAKE BASIN		
Jefferson	122	142	Snake above Jackson, Wyo.	82	119
Madison	111	135	Snake-Jackson to Heise	118	144
Gallatin	99	119	Snake abv.American Falls Res.	108	150
Missouri Main Stem	140	137	Henry's Fork	104	133
Yellowstone	102	119	Southern Idaho Tributaries	154	166
Shoshone	102	125	Big and Little Wood	116	147
Wind	96	123	Boise	98	142
North Platte	90	113	Owyhee	---	1900
South Platte	111	119	Payette	93	133
ARKANSAS BASIN			Malheur	---	---
Arkansas	143	168	Weiser	102	205
Cucharas-Purgatoire	---	267	Burnt	80	135
RIO GRANDE BASIN			Powder	100	175
Rio Grande (Colo.)	274	212	Salmon	89	132
Rio Grande (New Mexico)	---	---	Grande Ronde	100	145
Pecos	---	---	Clearwater	87	110
COLORADO BASIN			LOWER COLUMBIA BASIN		
Green (Wyo.)	106	123	Yakima	82	141
Yampa - White	93	151	Umatilla	---	---
Duchesne	288	188	John Day	100	145
Price	205	207	Deschutes	80	140
Upper Colorado	90	121	Hood	70	145
Gunnison	144	168	Willamette	80	165
San Juan	218	181	Lewis	69	127
Dolores	253	292	Cowlitz	74	120
Virgin	352	200	PACIFIC COASTAL BASIN		
Gila	---	---	Puget Sound	78	135
Salt	---	---	Olympic Peninsula	80	104
GREAT BASIN			Umpqua - Rogue	145	300
Bear	121	147	Klamath	145	290
Logan	121	149	Trinity	95	155
Ogden	188	194	CALIFORNIA		
Weber	126	167	CENTRAL VALLEY		
Provo - Utah Lake	156	202	Upper Sacramento	95	165
Jordan	124	163	Feather	95	155
Sevier	140	173	Yuba	105	160
Walker - Carson	315	155	American	110	150
Tahoe - Truckee	132	199	Mokelumne	110	155
Humboldt	210	643	Stanislaus	115	155
Lake Co. (Oregon)	1345	695	Tuolumne	105	155
Harney Basin (Oregon)	---	---	Merced	100	150
Owens (California)	75	115	San Joaquin	95	135
UPPER COLUMBIA BASIN			Kings	80	120
Columbia (Canada)	---	94	Kaweah	75	115
Kootenai (USA & Canada)	84	121	Tule	1000	155
Clark Fork	91	123	Kern	65	90
Bitterroot	100	133	Data for California Watersheds supplied by Dept. of Water Resources, and for British Columbia Watersheds by Dept. of Lands, Forests and Water Resources.		
Flathead	85	116			
Spokane	77	104	Average is for the 1958-72 period. California averages are for the period 1931-70. Based on Selected Snow Courses determined by Distribu- tion within the Basin, Length of Record and Re- petitive Monthly Measurement Schedules.		
Okanogan	83	139			
Methow	72	134			
Chelan	82	112			
Wenatchee	114	207			



Mountain watersheds. The snowpack is unusually heavy at 175 percent of normal on the Belle Fourche. Snowpack in the extreme northern end of the Big Horn Mountains has exceeded the previous maximum of record.

Runoff on Montana streams is forecast to be average on the Sun, Teton, Marias and Milk rivers. Well above average flows are expected on the Madison, Jefferson and streams tributary to the Missouri above Great Falls. Above average runoff is expected in most other drainages in the Missouri system.

Wyoming streamflow forecasts increased significantly during April. Streams expected to flow higher than 130 percent of average are the Belle Fourche, Cheyenne, Tongue and the North Platte above Seminoe. The Big Horn watersheds should produce volumes of streamflow 110 to 130 percent of average while near average flows are expected on the Yellowstone River in Yellowstone Park.

Current reservoir storage is well above average in Wyoming and 95 percent of average in Montana.

## ARKANSAS BASIN

The present snowpack has increased to 168 percent of average from last month's 118 percent. Soil moisture is poor to fair and will reduce the snowmelt runoff slightly, but volumes 150 percent of average are still expected this spring and summer. Some high water from the snowmelt is possible on the Arkansas above Pueblo.

The Arkansas River at Salida is forecast at 150 percent of the 15 year average. Flow 50 to 60 percent above average is also expected on the Cucharas and Purgatoire rivers.

Carryover reservoir storage is practically nil in the Arkansas Basin. However, this poor condition is more than compensated for by the expected heavy streamflow. In New Mexico storage in Conchas Reservoir is 75 percent of average. This, in combination by the expected heavy runoff, will insure adequate water supplies in this area.

## RIO GRANDE BASIN

There is a heavy snowpack in the Rio Grande Basin. For the first time measurements of over 100 inches of snow were recorded on the Taos, New Mexico ski area. The snowpack on the Upper

Rio Grande in Colorado is about two times normal for May 1. Mountain soils continue to be dry and will detract slightly from the snowmelt runoff. However, with the exceptionally heavy snowpack, it is almost assured that some high water will occur on most snowmelt streams.

Flow of the Rio Grande near Del Norte, Colorado is expected to be 171 percent of average. Prospective snowmelt volumes on the Conejos, Chama, Culebra and Rio Hondo vary from 150 to 180 percent. The Rio Grande at Otowi Bridge is forecast to be 185 percent of the 15 year average. Flow from the Pecos River will be about 60 percent above average.

Carryover reservoir storage is near normal in Elephant Butte and four and one-half times normal in El Vado. In summary, the water supply outlook is excellent.

## COLORADO BASIN

The snowpack in the Colorado Basin ranges from a low of 120 percent of average on the Upper Green in Wyoming and the Upper Colorado in Colorado up to a high of 290 percent on Colorado's Dolores River. Utah's portion of the Basin has a snow cover one and one-half to two times normal for May 1. The snowpack is 176 percent of average for the entire Colorado drainage above Lake Powell.

While soils are drier than usual and will subtract slightly from the snowmelt runoff, forecasted streamflow volumes are still well above average. Utah's streams should produce flows varying from 120 percent of average on the Duchesne up to 200 percent on the San Juan River.

The Green River at Green River, Wyoming is expected to be 115 percent of average. In northwestern Colorado the Yampa and White rivers are forecast to be near 135 percent. The expected flow of the Colorado near Cisco, Utah increases to 168 percent as contributions from the Gunnison 169 percent, Roaring Fork 133 percent and the Uncompaghere and Dolores rivers 170 percent are made. The San Juan and its tributaries will also add to the above average streamflow on the Colorado. It is forecast at 185 percent.

The flows in the main stem, inflow to Lake Powell, are expected to be 155 percent of average as all the tributaries with the heavy snow accumulations from the Wyoming-Utah state line on to the south make their contributions.

In the Lower Colorado River Basin the Virgin River near Virgin, Utah is forecast to produce 190 percent of average amounts of snowmelt water. In Arizona the cold weather also delayed

# SELECTED STREAMFLOW FORECASTS

MAY 1, 1975

STREAM AND STATION	FORECASTS THIS YEAR		Forecast Period	Last Year's Flow In (1,000 A.F.)
	Flow In (1,000 A.F.)	Percent of Average		
SASKATCHEWAN				
St. Mary near Babb, Montana <u>1/</u>	496	106	May-Sept.	---
UPPER MISSOURI				
Beaverhead near Grant, Montana <u>2/</u>	175	165	May-Sept.	77
Big Hole near Melrose, Montana	870	131	May-Sept.	---
Jefferson at Silver Star, Montana	---	---	May-Sept.	---
Madison near Grayling, Montana <u>3/</u>	520	122	May-Sept.	546
Gallatin near Gateway, Montana	620	122	May-Sept.	---
Sun at Gibson Dam, Montana <u>4/</u>	540	97	May-Sept.	586
Belt near Monarch, Montana	135	117	May-Sept.	---
Marias near Shelby, Montana <u>5/</u>	505	104	May-Sept.	496
Missouri near Landusky, Montana <u>6/</u>	5,300	128	May-Sept.	---
near Williston, North Dakota <u>7/</u>	13,400	129	May-Sept.	---
S. Fk. Musselshell above Martinsdale, Montana	61	137	May-Sept.	---
Milk at Eastern Crossing, Montana	225	102	May-Sept.	---
Yellowstone at Yellowstone Lake Outlet, Wyo.	800	97	April-Oct.	1,134
at Corwin Springs, Montana	2,330	122	May-Sept.	2,615
at Miles City, Montana <u>8/</u>	7,300	123	May-Sept.	---
Clarks Fork near Belfry, Montana	655	112	May-Sept.	---
Shoshone below Buffalo Bill Res., Wyo. <u>9/</u>	947	114	April-Sept.	1,105
Wind near Dubois, Wyoming	122	120	April-Sept.	137
at Riverton, Wyoming <u>10/</u>	750	113	April-Sept.	756
below Boysen Res., Wyoming <u>11/</u>	1,075	107	April-Sept.	1,177
Bull Lake Creek near Lenore, Wyoming	191	105	April-Sept.	199
Little Popo Agie near Lander, Wyoming	46	97	April-Sept.	60
Tensleep near Tensleep, Wyoming	95	120	April-Sept.	---
Medicine Lodge near Hyattville, Wyoming	25.4	120	April-Sept.	---
Shell Creek near Shell, Wyoming	91	125	April-Sept.	82
Bighorn near St. Xavier <u>8/</u>	2,050	119	May-Sept.	---
Tongue near Dayton, Wyoming	150	133	April-Sept.	122
No. Fork Powder near Hazelton, Wyoming	12.5	125	April-Sept.	7.0
PLATTE				
North Platte at Sinclair, Wyoming	880	136	April-Sept.	915
Encampment near Encampment, Wyoming	184	130	April-Sept.	205
Laramie Riv. & Pioneer Canal, nr Woods, Wyo. <u>12/</u>	146	115	April-Sept.	158
Big Thompson at Drake, Colorado <u>13/</u>	120	112	April-Sept.	---
Clear at Golden, Colorado <u>14/</u>	150	118	April-Sept.	---
St. Vrain at Lyons, Colorado <u>15/</u>	92	123	April-Sept.	---
Cache La Poudre near Fort Collins, Colorado <u>16/</u>	265	107	April-Sept.	---
ARKANSAS				
Arkansas at Salida, Colorado <u>17/</u>	470	150	April-Sept.	---
Cucharas near LaVeta, Colorado	15	150	April-Sept.	---
Purgatoire at Trinidad, Colorado	60	158	April-Sept.	---
RIO GRANDE				
Rio Grande near Del Norte, Colorado <u>18/</u>	800	171	April-Sept.	---
at Otowi Bridge, New Mexico <u>19/</u>	975	185	March-July	---
Conejos near Mogote, Colorado <u>20/</u>	285	155	April-Sept.	---
El Vado Res., Inflow, New Mexico	325	171	March-July	---
Pecos at Pecos, New Mexico	65	159	March-July	---
UPPER COLORADO				
Colorado, Grandby Res., Inflow, Colorado <u>21/</u>	235	103	April-Sept.	---
near Dotsero, Colorado <u>22/</u>	1,750	122	April-Sept.	---
near Cameo, Colorado <u>23/</u>	2,900	122	April-Sept.	---
near Cisco, Utah <u>24/</u>	4,753	168	April-July	2,807
Lake Powell Inflow, Arizona <u>25/</u>	10,495	153	April-July	---
Roaring Fork at Glenwood Springs, Colorado <u>26/</u>	950	133	April-Sept.	---
Uncompahgre at Colona, Colorado	230	172	April-Sept.	---

Forecasts in California provided by Department of Water Resources.  
Average is for 1938-72 period except California. California is computed for 1921-70 period.  
Forecasts assume average effective climate conditions from date through snow melt season.

Explanatory Notes on Forecasts listed on Inside Back Cover.

# SELECTED STREAMFLOW FORECASTS

MAY 1, 1975

STREAM AND STATION	FORECASTS THIS YEAR		Forecast Period	Last Year's Flow In (1,000 A.F.)
	Flow In (1,000 A.F.)	Percent of Average		
UPPER COLORADO (continued)				
Gunnison, Blue Mesa Res. Inflow, Colorado <u>27/</u>	1,200	151	April-Sept.	---
near Grand Junction, Colorado <u>28/</u>	2,000	169	April-Sept.	---
Dolores at Dolores, Colorado	395	170	April-Sept.	---
Green at Warren Bridge, Wyoming	365	112	April-Sept.	389
at Green River, Wyoming <u>29/</u>	1,140	115	April-Sept.	1,165
Flaming Gorge Res. Inflow, Utah <u>27/</u>	1,349	115	April-July	1,430
at Green River, Utah <u>30/</u>	3,432	121	April-July	3,422
Big Sandy near Big Sandy, Wyoming	63	111	April-Sept.	67
Yampa at Steamboat Springs, Colorado	365	133	April-Sept.	---
near Maybell, Colorado	1,200	133	April-Sept.	---
Little Snake near Dixon, Wyoming	375	124	April-Sept.	---
White near Meeker, Colorado	400	136	April-Sept.	---
Strawberry at Duchesne, Utah <u>40/</u>	65	141	May-July	---
Duchesne near Tabiona, Utah <u>31/</u>	112	119	May-July	---
at Randlett, Utah <u>40/</u>	260	130	May-July	---
Lakefork below Moon Lake, Utah <u>32/</u>	72	109	May-July	---
Uinta near Neola, Utah	86	104	May-July	---
Whiterocks near Whiterocks, Utah	59	105	May-July	28
Price, Scofield Res. Inflow, Utah <u>33/</u>	103	199	May-July	---
Cottonwood near Orangeville, Utah <u>34/</u>	58	134	May-July	---
San Juan, Navajo Res. Inflow, New Mexico <u>27/</u>	1,100	184	April-July	---
near Bluff, Utah <u>35/</u>	1,748	205	April-July	364
Animas at Durango, Colorado	735	176	April-Sept.	---
LOWER COLORADO				
Virgin near Virgin, Utah	54	193	May-June	10.0
Little Colorado above Lyman, Arizona	2.5	147	May-June	0.1
Gila near Solomon, Arizona	20	160	May	3
Frisco at Clifton, Arizona	10	156	May	2
Salt at Intake, Arizona	73	169	May	18
Tonto above Roosevelt, Arizona	4	267	May	1
Verde above Horseshoe Dam, Arizona	12	120	May	10
GREAT BASIN				
Bear at Utah-Wyo. State Line	146	138	May-July	125
at Harer, Idaho	405	171	May-Sept.	---
Smith's Fork near Border, Wyoming	145	125	April-Sept.	141
Thomas Fork near Wyo.-Ida. State Line	42	130	April-Sept.	39
Logan near Logan, Utah <u>36/</u>	127	130	May-July	117
Ogden, Pine View Res. Inflow, Utah <u>27/</u>	145	226	May-June	115
Weber near Oakley, Utah	120	132	May-June	118
Provo near Hailstone, Utah <u>37/</u>	124	138	May-July	---
Strawberry Res. Inflow, Utah	46	131	May-July	43
Utah Lake Net Inflow, Utah	225	157	May-July	153
Big Cottonwood near Salt Lake City, Utah	44	142	May-July	39
Beaver near Beaver, Utah	29	165	May-July	---
Sevier near Hatch, Utah	48	141	May-July	---
near Gunnison, Utah	52	186	May-July	---
So. Fork Humboldt near Elko, Nevada	90	158	May-July	---
Humboldt at Palisades, Nevada	325	218	May-July	160
Truckee at Farad, California <u>38/</u>	360	181	May-July	297
East Carson near Gardnerville, Nevada	230	153	May-July	228
West Carson at Woodsfords, California	62	151	May-July	65
East Walker near Bridgeport, California <u>39/</u>	85	144	May-August	80
West Walker near Coleville, California	170	132	May-July	173
Donner und Blitzen near Frenchglen, Oregon	57	135	May-Sept.	50
Silvies near Burns, Oregon	56	163	May-Sept.	67
Chewaucan near Paisley, Oregon	115	192	May-Sept.	94
Deep above Adel, Oregon	68	151	May-Sept.	62
Bidwell near Ft. Bidwell, California	---	---	May-July	---
Owens below Long Valley Res., California	61	98	April-July	65

Forecasts in California provided by Department of Water Resources  
Average is for 1958-72 period except California. California is computed for 1921-70 period  
Forecasts assume average Effective Climate Conditions from Date Through Snow Melt Season.

Explanatory Notes on Forecasts listed on Inside Back Cover



# SELECTED STREAMFLOW FORECASTS

MAY 1, 1975

STREAM AND STATION	FORECASTS THIS YEAR		Forecast Period	Last Year's Flow In (1,000 A.F.)
	Flow In (1,000 A.F.)	Percent of Average		
UPPER COLUMBIA				
Columbia at Birchbank, British Columbia <u>40/</u>	43,800	101	May-Sept.	50,321
at Grand Coulee, Washington <u>40/</u>	65,700	106	May-Sept.	75,369
below Rock Island, Washington	72,700	107	May-Sept.	86,002
Kootenai blw. Libby Dam nr. Libby, Montana	7,350	105	May-Sept.	8,840
at Leonia, Idaho	8,650	105	May-Sept.	---
Blackfoot near Bonner, Montana	1,110	123	May-Sept.	---
So. Fk. Flathead nr Columbia Falls, Montana <u>40/</u>	2,150	101	May-Sept.	2,741
Flathead at Columbia Falls, Montana <u>40/</u>	6,000	104	May-Sept.	7,752
near Polson, Montana <u>40/</u>	7,100	104	May-Sept.	9,155
Clark Fork above Missoula, Montana	2,000	126	May-Sept.	1,732
near Plains, Montana <u>40/</u>	12,300	110	May-Sept.	14,387
at Whitehorse Rapids, Idaho	13,500	109	May-Sept.	---
Bitterroot near Darby, Montana	680	128	May-Sept.	666
Priest near Priest River, Idaho <u>41/</u>	950	139	May-July	---
Pend Oreille below Box Canyon, Washington	15,200	111	May-Sept.	---
Kettle near Laurier, Washington	2,070	128	May-Sept.	2,330
Spokane at Post Falls, Idaho <u>42/</u>	2,550	125	May-Sept.	---
Similkameen near Nighthawk, Washington	1,640	115	May-Sept.	2,094
Okanogan near Tonasket, Washington	2,020	127	May-Sept.	2,511
Methow near Pateros, Washington	1,200	127	May-Sept.	---
Stehekin at Stehekin, Washington	770	117	May-Sept.	---
Chelan at Chelan, Washington <u>43/</u>	1,360	119	May-Sept.	1,627
Wenatchee at Peshastin, Washington	1,950	123	May-Sept.	2,333
SNAKE				
Snake above Palisades Res., Wyoming <u>44/</u>	2,900	111	April-Sept.	3,737
near Heise, Idaho <u>45/</u>	4,300	113	May-Sept.	---
near Blackfoot, Idaho <u>46/</u>	4,575	120	May-July	---
at Weiser, Idaho	6,190	122	May-Sept.	---
Grey's above Palisade, Wyoming	450	116	April-Sept.	551
Salt above Palisade, Wyoming	428	117	April-Sept.	493
Henry's Fork near Ashton, Idaho <u>47/</u>	695	122	May-Sept.	---
Teton near St. Anthony, Idaho	500	125	May-Sept.	---
Big Lost near Mackay, Idaho <u>48/</u>	205	122	May-Sept.	---
Little Lost near Howe, Idaho	40	113	May-Sept.	---
Portneuf at Topaz, Idaho	80	121	May-Sept.	---
Salmon Falls Creek nr San Jacinto, Idaho	110	204	May-Sept.	---
Little Wood abv High 5 Crk, Idaho	100	137	May-Sept.	---
Big wood, Inflow to Magic Res., Idaho <u>49/</u>	300	144	May-Sept.	---
Bruneau near Hot Springs, Idaho	260	160	May-Sept.	---
Boise near Boise, Idaho <u>50/</u>	1,750	135	May-Sept.	---
Owyhee near Owyhee, Nevada <u>51/</u>	110	269	May-July	88
Owyhee Res. Net Inflow, Oregon <u>27/</u>	418	232	May-Sept.	170
Malheur near Drewsey, Oregon	104	315	May-Sept.	69
Payette near Horseshoe Bend, Idaho <u>52/</u>	1,850	120	May-Sept.	---
Weiser above Crane Creek, Idaho <u>40/</u>	370	136	May-Sept.	---
Burnt near Hereford, Oregon <u>40/</u>	26	176	May-Sept.	35
Powder near Sumpter, Oregon	54	132	May-Sept.	80
Eagle above Skull Creek, Oregon	183	110	May-Sept.	274
Imnaha at Imnaha, Oregon	292	115	May-Sept.	385
Salmon at Whitebird, Idaho	7,500	119	May-Sept.	---
Lostine near Lostine, Oregon	135	115	May-Sept.	166
Grande Ronde at LaGrande, Oregon	125	130	May-Sept.	140
Clearwater at Spalding, Idaho	8,000	116	May-Sept.	---
LOWER COLUMBIA				
Yakima at CleElum, Washington <u>53/</u>	910	115	May-Sept.	---
near Parker, Washington <u>54/</u>	1,650	124	May-Sept.	---
Naches near Naches, Washington <u>55/</u>	875	117	May-Sept.	---

Forecasts in California provided by Department of Water Resources.  
Average is for 1958-72 period except California. California is computed for 1921-70 period.  
Forecasts assume average Effective Climate Conditions from Date Through Snow Melt Season.

Explanatory Notes on Forecasts listed on Inside Back Cover.

# SELECTED STREAMFLOW FORECASTS

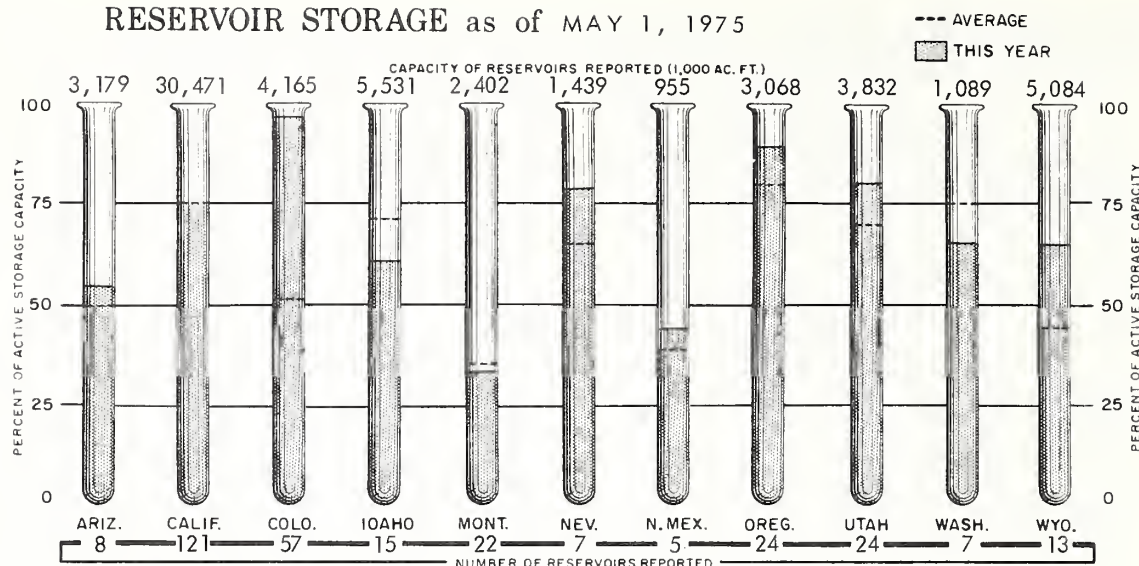
MAY 1, 1975

STREAM AND STATION	FORECASTS THIS YEAR		Forecast Period	Last Year's Flow In (1,000 A.F.)
	Flow In (1,000 A.F.)	Percent of Average		
LOWER COLUMBIA (continued)				
Walla Walla, So. Fk. near Milton, Oregon	54	106	May-Sept.	81
Umatilla at Pendleton, Oregon	80	118	May-July	---
John Day, Middle Fork at Ritter, Oregon	98	140	May-Sept.	119
North Fork at Monument, Oregon	496	140	May-Sept.	---
Crooked near Post, Oregon	48	150	May-July	---
Deschutes at Benham Falls, Oregon 40/	561	119	May-Sept.	---
Columbia at The Dalles, Oregon 40/	101,000	110	May-Sept.	119,784
at The Dalles, Oregon 40/	85,300	111	May-July	103,630
at The Dalles, Oregon 40/	67,300	112	May-June	79,342
Hood near Tucker Bridge, Oregon 40/	239	102	May-Sept.	---
McKenzie near Vida, Oregon	1,022	108	May-Sept.	---
Santiam, South, at Waterloo, Oregon	383	100	May-Sept.	---
North, at Mehama, Oregon 40/	637	106	May-Sept.	---
Clackamas at Estacada, Oregon	589	105	May-Sept.	873
Willamette at Salem, Oregon 40/	3,671	116	May-Sept.	---
Lewis at Ariel, Washington 56/	950	102	May-Sept.	1,409
Cowlitz at Castle Rock, Washington 57/	2,300	110	May-Sept.	3,410
NORTH PACIFIC COASTAL				
Dungeness near Sequim, Washington	160	109	May-Sept.	---
Umpqua, No., near Toketee Falls, Oregon 40/	176	127	May-Sept.	---
Rogue at Raygold, Oregon	907	140	May-Sept.	882
Klamath Lake, Net Inflow, Oregon	530	150	May-Sept.	465
Trinity at Lewiston, California	960	156	April-July	1,021
CALIFORNIA CENTRAL VALLEY 40/				
Sacramento, Inflow to Shasta, California	2,330	131	April-July	2,604
Feather near Oroville, California	2,730	147	April-July	2,688
Yuba at Smartville, California	1,520	141	April-July	1,390
American, Inflow to Folsom Res., Calif.	1,790	136	April-July	1,696
Cosumnes at Michigan Bar, California	230	174	April-July	177
Mokelumne, Inflow to Pardee Res., Calif.	640	137	April-July	574
Stanislaus, Inflow to Melones Res., Calif.	1,050	146	April-July	892
Tuolumne, Inflow to Don Pedro Res., Calif.	1,550	130	April-July	1,381
Merced, Inflow to Exchequer Res., Calif.	740	122	April-July	746
San Joaquin, Inflow to Millerton Lake, Calif.	1,510	127	April-July	1,508
King, Inflow to Pine Flat Res., California	1,480	127	April-July	1,522
Kaweah, Inflow to Terminus Res., California	290	107	April-July	331
Tule, Inflow to Success Res., California	62	105	April-July	73
Kern, Inflow to Isabella Res., California	380	90	April-July	512
ALASKA				
Yukon at Eagle, Alaska	43,900	132	May-July	27,013
at Ruby, Alaska	75,475	115	May-July	51,030
Porcupine nr Fort Yukon, Alaska	7,315	106	May-July	4,595
Salcha near Salchaket, Alaska	580	77	May-July	348
Little Chena near Fairbanks, Alaska	68	75	May-July	64
Chena at Fairbanks, Alaska	432	80	May-July	323
Ship Creek near Anchorage, Alaska	85	149	May-July	43
So. Fk. Campbell at Canyon Mouth nr Anchorage, AK	21.6	151	May-July	10.9

Forecasts in California provided by Department of Water Resources.  
Average is for 1958-72 period except California. California is computed for 1921-70 period.  
Forecasts assume average Effective Climate Conditions from Date Through Snow Melt Season.

Explanatory Notes on Forecasts listed on Inside Back Cover.

## RESERVOIR STORAGE as of MAY 1, 1975



snowmelt and combined with heavy precipitation during the past month insured good water supplies for all of this portion of the Basin. Streamflow during May is expected to range from 120 percent on the Verde up to 267 percent on the Tonto.

Carryover reservoir storage in the major Arizona reservoirs is eight percent above normal.

the Humboldt in Nevada. Many streams such as the Sevier, Logan, Ogden, Bear, all in Utah; the Walker, Carson and main Humboldt in Nevada and the Silvies and Chewaucan in Oregon are all expected to flow 150 to 200 percent of average.

Carryover reservoir storage in Utah and Nevada is excellent at 124 and 120 percent respectively.

Excellent water supplies are in prospect for almost all of the Great Basin this year.

## GREAT BASIN

A heavy snowpack, as a percent of average, exists in most of the Great Basin. Cold April temperatures and more than average precipitation combined to delay snowmelt and add to an already above normal snow cover.

The mountain snowpack now varies from a low of 115 percent on the Owens River in California up to 1,550 percent on the North Fork of the Humboldt in Nevada. This extreme percentage is due to lack of snow melt. Many snow courses in this high desert country are normally bare by May 1. This year they had 8 to 15 inches of water content on May 1, thus causing an unusual percentage to be reported. The Oregon portions of the Basin have a snow cover 6 times normal for May 1, also due to lack of snow melt. A snowpack one and one-half to two times the average was reported on Walker-Carson and Truckee drainages in Nevada and the Bear, Logan, Ogden, Jordan, Weber and Sevier rivers in Utah.

Streamflow forecasts range from a low of 98 percent on California's Owens River to a high of 300 percent of average on the North Fork of

## COLUMBIA BASIN

Colder than normal temperatures dominated the weather pattern throughout the Columbia Basin during April. This has resulted in a lack of snowmelt and an above to much above average snowpack on most watersheds except in the Upper Columbia portion of the basin in British Columbia where it is near average. 120 percent of average would generally describe the snow cover over the Columbia as a whole for May 1.

The snow cover on the Snake tributaries in southern Idaho and the Owyhee in Nevada and Oregon range from 140 percent on the Boise up to 275 percent of average on the Owyhee. This pattern of heavy snow cover extends westward into Oregon over the Grande Ronde, John Day, Deschutes and Willamette drainages which are all 140 percent to 165 percent of average. It continues northward into Central Washington where the Yakima and Wenatchee are 140 and 210 percent, respectively. The Kettle and Priest rivers are also near 150 percent.

Snow water contents of 120 to 140 percent of average exist on the Lewis and Cowlitz rivers



## STORAGE IN LARGE RESERVOIRS

MAY 1, 1975

BASIN AND NAME OF RESERVOIR	CAPACITY (1,000 A.F.)	STORAGE (1,000 A.F.)	STORAGE PERCENT AVERAGE	BASIN AND NAME OF RESERVOIR	CAPACITY (1,000 A.F.)	STORAGE (1,000 A.F.)	STORAGE PERCENT AVERAGE
UPPER MISSOURI				UPPER COLUMBIA			
Belle Fourche	185	151	114	Chelan	676	79	35
Boysen	550	251	136	Coeur d'Alene	225	204	81
Buffalo Bill	373	179	149	Duncan	1,347	25	30
Canyon Ferry	2,043	1,268	82	Flathead	1,791	648	66
Fort Peck	19,410	16,490	122	Hungry Horse	3,428	1,689	84
Garrison	24,790	20,028	136	Kootenay	787	160	36
Hebgen	377	229	108	Lake Koocanusa	4,934	761	---
Keyhole	192	142	173	Lower Arrow	3,083	38	179
Lake Francis Case	5,816	4,240	102	Noxon Rapids	335	117	85
Lake Sharpe	1,900	1,734	100	Pend Oreille	1,155	382	71
Oahe	23,630	19,926	119	Roosevelt	5,232	312	18
Tiber	1,347	553	90	Upper Arrow	4,061	173	34
Bighorn Lake	1,356	746	95				
PLATTE				LOWER COLUMBIA			
So. Platte in CO. (30)	1,085	893	104	Cougar	155	108	100
City of Denver (7)	622	414	90	Detroit	300	229	92
Colo-Big Thompson (3)	718	502	117	Green Peter	270	226	113
Glendo	784	499	110	Hills Creek	200	130	82
Pathfinder	1,016	946	230	Lookout Point	337	250	97
Seminole	1,010	468	149	Prineville	153	151	103
				Wickiup	200	202	107
ARKANSAS				Yakima Res. (5)	1,066	690	87
Conchas	273	132	75				
John Martin	354	0	---	SNAKE			
Turquoise	130	34	---	American Falls	1,125	1,108	102
				Anderson Ranch	423	248	88
RIO GRANDE				Arrowrock	287	92	40
Elephant Butte	2,195	356	94	Brownlee	980	306	71
El Vado	195	131	468	Cascade	653	255	72
				Dworshak	2,016	207	---
UPPER COLORADO				Jackson	847	632	126
Blue Mesa	830	265	---	Lucky Peak	278	83	58
Flaming Gorge	3,749	3,101	190	Owyhee	715	628	111
Navajo	1,696	1,083	---	Palisades	1,200	333	43
Powell	25,002	17,509	209	Warm springs	191	175	125
Starvation	152	124	---				
				PACIFIC COASTAL			
LOWER COLORADO				Clair Engle	2,448	2,152	94
Havasu	619	600	101	Clear Lake	440	361	136
Mead	26,159	19,377	114	Nacimiento	350	330	152
Mohave	1,810	1,546	91	Ross	1,404	386	51
Salt River Res. (4)	1,755	1,328	113	Upper Klamath	584	472	91
San Carlos	949	246	126				
Verde River Res. (2)	318	112	67	CALIFORNIA CENTRAL VALLEY			
				Almanor	1,308	878	104
GREAT BASIN				Berryessa	1,602	1,612	102
Bear Lake	1,421	1,134	109	Bullards Bar	930	617	88
Deer Creek	150	97	94	Folsom	1,010	690	92
Lahontan	291	250	114	Isabella	570	216	108
Rye Patch	157	130	121	McClure	1,026	759	118
Sevier Bridge	236	186	163	Millerton	521	362	99
Strawberry	274	220	169	Oroville	3,484	3,127	104
Tahoe	732	553	115	Pine Flat	1,013	572	85
Utah Lake	884	852	128	Shasta	4,500	4,579	106
Willard Bay	193	165	102				

Reservoir Storage Data Provided by Bureau of Reclamation, Corps of Engineers, Geological Survey, and water using organizations. Data from California and British Columbia provided by Department of Water Resources and Department of Lands, Forests and Water Resources, respectively.

in Western Washington and on the Similkameen and Okanogan in British Columbia. In addition, the Salmon and Payette in Idaho, Clark's Fork, Blackfoot and Bitterroot in Montana and the Upper Snake in Wyoming are all above average.

Near normal May 1 snow conditions were observed on the Chelan River in Washington, most watersheds in northern Idaho including the Clearwater and Spokane and in British Columbia on the Upper and Lower Columbia and east and west Kootenay drainages.

As of May 1, many snow courses throughout the entire Columbia Basin which normally decrease in water content during April and some which completely melted out, had increased in water content or stayed at or near their April 1 values.

Streamflow forecasts in the U. S. portions of the Basin vary from a low of near 100 percent on the South Santiam in Oregon to a high of 315 percent on the Malheur, also in Oregon.

Streams expected to be at one to one and one-half times normal during the snow melt season are the tributaries in Washington, including the Chelan, Wenatchee, Similkameen, Okanogan, Methow, Naches and Yakima; the Powder, Burnt, Grande Ronde, Umatilla, John Day, Deschutes and Crooked rivers in Oregon; the Snake, Big and Little Wood, Boise, Big and Little Lost, Henry's Fork, Clearwater, Salmon and Spokane rivers in Idaho, and those watersheds in Montana such as the Bitterroot, Clark Fork, Flathead and Kootenai. Streamflow volumes more than one and one-half times average are expected on the Owyhee and Malheur in Oregon and Salmon Falls Creek and the Bruneau and Weiser rivers in Idaho. Flows in the North Coastal area, such as the Klamath and Rogue basins will be 40 to 50 percent above average.

Carryover reservoir storage is average to above average in Oregon and below average in Washington, Idaho and Montana.

According to the British Columbia-Water Resources Service, flow of the Columbia, Kootenay and their tributaries in B. C. will be 90 to 100 percent of average. Streamflow on the Okanogan and Kettle rivers will be 59 and 40 percent above average, respectively. Reservoir storage in the Canadian portions of the Basin is below normal.

## CALIFORNIA

The California Department of Water Resources, coordinating agency for snow surveys and water supply forecasting in California, reports that

Water supply conditions continued to improve during April. The beginning of snowmelt has been delayed a month due to additional snowfall and temperatures in April which average 5 to 10 degrees below normal. This delay increases the potential of rapid snowmelt and sustained high streamflow and could create some water regulation difficulties during the next four to six weeks.

FORECASTS of runoff for this spring and summer are near or above average for all streams in California except the Kern River which is about 10 percent below average. Forecasts for Central Valley streams, north of the Kern River, range from 105 percent of normal on the Tule River to a high of 174 percent for the Cosumnes River.

SNOWPACK data from May 1 snow surveys show that the pack is above normal throughout the State. Snow water content has finally reached maximum accumulation after receiving several more inches of water during the last month. The snow is now beginning to melt, about a month later than usual, which should tend to prolong the snowmelt runoff period this year.

PRECIPITATION patterns were erratic during April because of cold, unsettled conditions. In general, precipitation was below average on the Central Valley floor, northern coastal areas, and in the lower elevations of the southern Lahontan area. Precipitation was well above average in mountainous areas of the State and on the South Coastal and inland desert areas. For the water year, October 1 to date, precipitation totals have been near or above average except for the southern San Joaquin basins.

RUNOFF during April also varied widely over the State. Coastal streams from Monterey north experienced above normal runoff. In the Sacramento Valley, runoff ranged from 55 percent of normal on the Mokelumne River to 140 percent on the Sacramento River. Below normal runoff occurred in those basins where most of the precipitation was retained as snow at higher elevations. This condition was most evident in the San Joaquin Valley basins where April runoff averaged 50 to 60 percent of normal. Runoff for the first seven months of the water year has been below normal in all but the North and Central Coastal areas and in the northern Sacramento River Basin. Projections of water year runoff indicate total volumes in the Central Valley will be about 10 to 15 percent above average for the 12-month period. Only the San Francisco Bay and South Coastal areas will experience below normal water year runoff.

RESERVOIR storage is average throughout the State except in the North Coastal area and the San Joaquin Valley where storage is 95 percent of average. However, Central Valley reservoirs have gained one million acre-feet in storage during the last month, and most State and Federal Project reservoirs are expected to fill this year.

## ALASKA

A combination of cool temperatures and wet weather during April has resulted in abnormally heavy snowpacks on many Alaska watersheds. Snow surveys taken about May 1 indicate that very little melt has taken place and several areas received more snow than usual during April. In the Anchorage area the snowpack is much above normal. Most of the Ship Creek watershed snow courses now are heavier than at any time since the survey program began. Ship Creek is forecast at 149 percent of average and other streams in this vicinity will also flow at rates well above normal this summer. On the Tanana and Chena drainages near Fairbanks the snowpack increased more than normal during April with cool temperatures retarding the melt. The May 1 snowpack was 20 percent greater than average, more than twice as much snow was on the ground at survey time than was the case last year.

Streamflow forecasts for the May thru July period indicate slightly below normal flows such as the Chena at 80 percent and the Little Chena at 75 percent of average. Elsewhere in the state most watersheds have above normal snowpack and runoff is expected to be above the normal May thru July volume. The Yukon at Eagle is expected to produce 132 percent of average flows while the Porcupine River should flow at 106 percent of average at Fort Yukon.







# EXPLANATION of STREAMFLOW FORECASTS

All flows are observed flows except as adjusted for: 1/ Storage change in Lake Sherburne. 2/ Storage change in Lima and Clark Canyon reservoirs. 3/ Storage change in Hebgen Lake. 4/ Storage change in Gibson Reservoir and measured diversions. 5/ Storage change in Two Medicine, Four Horns, Lake Francis and Swift reservoirs. 6/ Storage change in Canyon Ferry and Tiber reservoirs. 7/ Changes as indicated in (6/), (8/), plus storage change in Fort Peck. 8/ Storage change in Boysen, Buffalo Bill, Bull Lake and Yellowtail reservoirs. 9/ Storage change in Buffalo Bill Reservoir plus Heart Mountain diversion. 10/ Storage change in Pilot Butte and Bull Lake reservoirs plus Wyoming canal diversion.

11/ Changes indicated in (10/) plus storage change in Boysen Reservoir. 12/ Plus diversions to Cache LaPoudre. 13/ Plus by-pass to power plants. 14/ Minus diversion thru Gumlick Tunnel. 15/ Storage change in Price Reservoir. 16/ Minus diversions from North Platte, Laramie and Colorado rivers plus measured diversions above station. 17/ Storage change in Clear Creek, Twin Lakes and Turquoise reservoirs minus diversions from Colorado River. 18/ Storage change in Rio Grande, Santa Maria and Continental reservoirs. 19/ Storage change in El Vado and Abiquiu reservoirs. 20/ Storage change in Platoro Reservoir.

21/ Storage change in Grandby Reservoir as furnished by U.S.B.R. plus diversions by Adams Tunnel and Grand River Ditch. 22/ Changes as indicated in (21/) plus diversions thru Roberts, Gumlick and Moffat tunnels and storage change in Dillon, Homestake, Williams Fork, Green Mountain and Willow Creek reservoirs. 23/ Changes indicated in (22/) and (26/). 24/ Storage change in Blue Mesa Reservoir. 25/ Changes indicated in (24/), (30/) and (35/) and storage change in Lake Powell. 26/ Diversions to Arkansas River plus storage change in Ruedi Reservoir. 27/ (Inflow record as computed by U. S. Bureau of Reclamation.) 28/ Storage change in Taylor, Blue Mesa and Morrow Point reservoirs. 29/ Storage change in Fontenelle Reservoir. 30/ Storage change in Flaming Gorge Reservoir.

31/ Plus diversion through Duchesne Tunnel. 32/ Storage change in Moon Lake Reservoir. 33/ Storage change in Scofield Reservoir. 34/ Storage change in Joe's Valley Reservoir. 35/ Storage change in Navajo Reservoir. 36/ Plus U. P. & L. Co. tailrace and Logan, Hyde Park and Smithfield canals. 37/ Minus diversions thru Duchesne Tunnel and Weber-Provo Canal. 38/ Storage change in Lake Tahoe and Boca reservoirs (Forecast by Truckee Basin Committee.) 39/ Storage change in Bridgeport Reservoir. 40/ Corrected for major upstream impairments -- represents simulated natural flow conditions.

41/ Storage change in Priest Lake. 42/ Storage change in Coeur d'Alene Lake and diversions by Spokane Valley Farms Co. and Rathrum Prairie canals. 43/ Storage change in Lake Chelan. 44/ Storage change in Jackson Lake. 45/ Storage change in Jackson Lake and Palisade reservoirs. 46/ Storage change in Jackson Lake, Palisades, Island Park, Henry's Lake, Grassy Lake plus diversions between Heise and Blackfoot. 47/ Storage change in Henry's Lake and Island Park reservoirs. 48/ Storage change in MacKay Reservoir and diversion in Sharp Ditch. 49/ Combined flow Big Wood near Bellevue and Camas Creek near Blaine. 50/ Storage change in Arrowrock, Anderson Ranch and Lucky Peak reservoirs.

51/ Storage change in Wild Horse Reservoir. 52/ Storage change in Cascade and Deadwood reservoirs. 53/ Storage change in Keechelus, Kachess and CleElum reservoirs plus diversion by Kittitas Canal. 54/ Changes indicated in (52/) plus storage change in Bumping and Rimrock Lakes plus diversion by Roza, Union Gap, New Reservation, Old Reservation and Sunrise canals. 55/ Storage change in Bumping and Rimrock lakes and diversions by Tieton, Selah Valley, Wapatox canals and City of Yakima. 56/ Storage change in Merwin, Yale and Swift reservoirs. 57/ Storage change in Mayfield Reservoir.

UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
511 N.W. BROADWAY RM. 111  
PORTLAND, OREGON 97209

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300

POSTAGE AND FEES PAID  
U. S. DEPARTMENT OF  
AGRICULTURE  
AGR-101



**FIRST CLASS MAIL**

## FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Furnishes the basic data  
necessary for forecasting  
water supply for irrigation,  
domestic and municipal water  
supply, hydro-electric power  
generation, navigation,  
mining and industry

*"The Conservation of Water begins  
with the Snow Survey"*